Amendments

1. (Currently amended) A method for removing drag reducer additive ("DRA") from liquid hydrocarbon fuel, said method comprising:

providing contaminated liquid hydrocarbon fuel comprising an initial concentration of DRA;

contacting said contaminated liquid hydrocarbon fuel with a quantity of fresh attapulgus clay under conditions effective to produce decontaminated liquid hydrocarbon fuel comprising a reduced concentration of said DRA;

said fresh attapulgus clay being effective to remove about 10% or more of a target DRA when 1 g of the fresh attapulgus clay is added in increments of from about 0.02 gram to about 0.1 gram, with agitation, to 100 ml. of contaminated liquid hydrocarbon fuel comprising from about 8 to about 9 ppm of ~~the~~ unsheared target DRA.

2. (Previously presented) The method of claim 1 wherein said conditions effective to produce decontaminated liquid hydrocarbon fuel comprise incremental addition of the fresh attapulgus clay and agitation of the resulting mixture.

3. (Previously presented) The method of claim 1 wherein said conditions effective to produce decontaminated liquid hydrocarbon fuel comprise passing the contaminated liquid hydrocarbon fuel through a bed comprising said fresh attapulgus clay.

4. (Previously presented) The method of claim 3 wherein said contacting produces used attapulgus clay, said method further comprising replacing said used attapulgus clay with fresh attapulgus clay.

5. (Currently amended) The method of claim 1 wherein said contacting said contaminated liquid hydrocarbon fuel comprising an initial concentration of DRA with ~~one or more~~ fresh attapulgus clay occurs at a location selected from the group consisting of: at a refinery; between a refinery and a fuel terminal; at a fuel terminal; between two different fuel terminals; between a fuel terminal and a airport

storage tank; at an airport storage tank; between a fuel terminal and a tanker truck; at a tanker truck; between an airport storage tank and a tanker truck; between two different tanker trucks; between a tanker truck and an engine, at a fuel dispenser; between a fuel dispenser and a vehicle comprising the engine; and, at the engine.

6. (Currently amended) The method of claim 1 further comprising preheating said ~~one or more~~ fresh attapulgus clay prior to use under conditions effective to remove adsorbed water without damaging said fresh attapulgus clay.

7. (Previously presented) The method of claim 1 wherein said reduced concentration of DRA is sufficiently low to perform one or more function selected from the group consisting of permitting reignition of jet fuel after flameout, decreasing plugging of fuel filters and reducing formation of deposits on engine components selected from the group consisting of intake valves, combustion chambers, and fuel injectors.

8. (Previously presented) The method of claim 1 wherein said liquid hydrocarbon fuel has a boiling range of from about 150 °F to about 750 °F.

9. (Previously presented) The method of claim 1 wherein said liquid hydrocarbon fuel is selected from the group consisting of liquefied natural gas (LNG), liquefied petroleum gas (LPG), motor gasoline, aviation gasoline, distillate fuels such as diesel fuel and home heating oil, kerosene, jet fuel, No. 2 oil, residual fuel, No. 6 fuel, and bunker fuel.

10. (Previously presented) The method of claim 1 wherein said liquid hydrocarbon fuel is selected from the group consisting of diesel fuel, jet fuel, aviation gasoline, and motor gasoline.

11. (Previously presented) The method of claim 1 wherein said liquid hydrocarbon fuel is jet fuel.

12. (Previously presented) The method of claim 17 wherein said reduced concentration of DRA is sufficiently low to permit reignition of said jet fuel after flameout.

13. (Previously presented) The method of claim 1 wherein said drag reducer additive comprises polyalphaolefin having a peak molecular weight of about 1 million Daltons or more.

14. (Previously presented) The method of claim 12 wherein said drag reducer additive comprises polyalphaolefin having a peak molecular weight of about 1 million Daltons or more.

15. (Previously presented) The method of claim 1 wherein said drag reducer additive comprises polyalphaolefin having a peak molecular weight of about 10 million Daltons or more.

16. (Previously presented) The method of claim 12 wherein said drag reducer additive comprises polyalphaolefin having a peak molecular weight of about 10 million Daltons or more.

17. (Previously presented) The method of claim 12 wherein said drag reducer additive comprises polyalphaolefin having a peak molecular weight of about 25 million Daltons or more.

18. (Previously presented) The method of claim 13 wherein said polyalphaolefin is made by solution polymerization.

19. (Previously presented) The method of claim 14 wherein said polyalphaolefin is made by solution polymerization.

20. (Previously presented) The method of claim 1 wherein said DRA comprises two different linear alpha olefins (LAO's) or more having from about 6 to about 12 carbon atoms, the number of carbon atoms of the two different LAO's differing by 6.

21. (Previously presented) The method of claim 1 wherein said DRA comprises polar groups.

22. (Previously presented) The method of claim 21 wherein said polar groups comprise organic polar groups.

23. (Previously presented) The method of claim 21 wherein said polar groups comprise a moiety selected from the group consisting of oxygen, sulfur, nitrogen, halogen, phosphorus, unsaturated carbon-carbon bonds, and combinations thereof.

24. (Currently amended) A method for removing DRA from liquid hydrocarbon fuel, said method comprising:

providing contaminated liquid hydrocarbon fuel comprising an initial concentration of DRA;

contacting said contaminated liquid hydrocarbon fuel with a quantity of fresh attapulgus clay under conditions effective to produce decontaminated liquid hydrocarbon fuel comprising a reduced concentration of said DRA;

said fresh attapulgus clay being effective to remove about 20% or more of a target DRA when 1 g of the fresh attapulgus clay is added in increments of from about 0.02 gram to about 0.1 gram, with agitation, to 100 ml. of contaminated liquid hydrocarbon fuel comprising from about 8 to about 9 ppm of ~~the~~ unsheared target DRA.

25. (Previously presented) The method of claim 24 wherein the fresh attapulgus clay comprises granules, a majority of the granules having a mesh size of from about 30 to about 90.

26. (Previously presented) The method of claim 24 wherein said conditions effective to produce decontaminated liquid hydrocarbon fuel comprise incremental addition of the fresh attapulgus clay and agitation of the resulting mixture.

27. (Previously presented) The method of claim 26 wherein said conditions effective to produce decontaminated liquid hydrocarbon fuel comprise incremental addition of the fresh attapulgus clay and agitation of the resulting mixture.

28. (Previously presented) The method of claim 25 wherein said contacting said contaminated liquid hydrocarbon fuel comprising an initial concentration of DRA with fresh attapulgus clay occurs at a location selected from the group consisting of: at a refinery; between a refinery and a fuel terminal; at a fuel terminal; between two different fuel terminals; between a fuel terminal and a airport storage tank; at an airport storage tank; between a fuel terminal and a tanker truck; at a tanker truck; between an airport storage tank and a tanker truck; between two different tanker trucks; between a tanker truck and an engine, at a fuel

dispenser; between a fuel dispenser and a vehicle comprising the engine; and, at the engine.

29. (Previously presented) The method of claim 24 further comprising preheating said fresh attapulgus clay prior to use under conditions effective to remove adsorbed water without damaging the fresh attapulgus clay.

30. (Previously presented) The method of claim 24 wherein said reduced concentration of DRA is sufficiently low to perform one or more function selected from the group consisting of permitting reignition of jet fuel after flameout, decreasing plugging of fuel filters and reducing formation of deposits on engine components selected from the group consisting of intake valves, combustion chambers, and fuel injectors.

31. (Previously presented) The method of claim 24 wherein said liquid hydrocarbon fuel has a boiling range of from about 150 °F to about 750 °F.

32. (Currently amended) The method of claim 24 wherein said liquid hydrocarbon fuel is selected from the group consisting of liquefied natural gas (LNG), liquefied petroleum gas (LPG), motor gasoline, aviation gasoline, distillate fuels such as diesel fuel and home heating oil, kerosene, jet fuel, No. 2 oil, residual fuel, No. 6 fuel, ~~or~~and bunker fuel.

33. (Previously presented) The method of claim 24 wherein said liquid hydrocarbon fuel is selected from the group consisting of diesel fuel, jet fuel, aviation gasoline, and motor gasoline.

34. (Previously presented) The method of claim 24 wherein said liquid hydrocarbon fuel is jet fuel.

35. (Previously presented) The method of claim 34 wherein said reduced concentration of DRA is sufficiently low to permit reignition of said jet fuel after flameout.

36. (Previously presented) The method of claim 24 wherein said drag reducer additive comprises polyalphaolefin having a peak molecular weight of about 1 million Daltons or more.

37. (Previously presented) The method of claim 35 wherein said drag reducer additive comprises polyalphaolefin having a peak molecular weight of about 1 million Daltons or more.

38. (Previously presented) The method of claim 24 wherein said drag reducer additive comprises polyalphaolefin having a peak molecular weight of about 10 million Daltons or more.

39. (Previously presented) The method of claim 35 wherein said drag reducer additive comprises polyalphaolefin having a peak molecular weight of about 10 million Daltons or more.

40. (Previously presented) The method of claim 35 wherein said drag reducer additive comprises polyalphaolefin having a peak molecular weight of about 25 million Daltons or more.

41. (Previously presented) The method of claim 36 wherein said polyalphaolefin is made by solution polymerization.

42. (Previously presented) The method of claim 37 wherein said polyalphaolefin is made by solution polymerization.

43. (Previously presented) The method of claim 24 wherein said DRA comprises two different linear alpha olefins (LAO's) or more having from about 6 to about 12 carbon atoms, the number of carbon atoms of the two different LAO's differing by 6.

44. (Previously presented) The method of claim 34 wherein said DRA comprises two different linear alpha olefins (LAO's) or more having from about 6 to about 12 carbon atoms, the number of carbon atoms of the two different LAO's differing by 6.

45. (Previously presented) The method of claim 24 wherein said DRA comprises polar groups.

46. (Previously presented) The method of claim 45 wherein said polar groups comprise organic polar groups.

47. (Previously presented) The method of claim 45 wherein said polar groups comprise a moiety selected from the group consisting of oxygen, sulfur,

nitrogen, halogen, phosphorus, unsaturated carbon-carbon bonds, and combinations thereof.

48. (Currently amended) A method for removing DRA from liquid hydrocarbon fuel, said method comprising:

providing contaminated liquid hydrocarbon fuel comprising an initial concentration of DRA;

contacting said contaminated liquid hydrocarbon fuel with a bed comprising a quantity of fresh attapulgus clay under conditions effective to produce decontaminated liquid hydrocarbon fuel comprising a reduced concentration of said DRA;

said fresh attapulgus clay being effective to remove about 20% or more of a target DRA when 1 g of the fresh attapulgus clay is added in increments of from about 0.02 gram to about 0.1 gram, with agitation, to 100 ml of contaminated liquid hydrocarbon fuel comprising from about 8 to about 9 ppm of ~~the~~ unsheared target DRA.

49. (Previously presented) The method of claim 48 wherein said contacting produces used attapulgus clay, said method further comprising replacing said used attapulgus with said fresh attapulgus clay.

50. (Previously presented) The method of claim 48 wherein said reduced concentration of DRA is sufficiently low to perform one or more function selected from the group consisting of permitting reignition of jet fuel after flameout, decreasing plugging of fuel filters and reducing formation of deposits on engine components selected from the group consisting of intake valves, combustion chambers, and fuel injectors.

51. (Previously presented) The method of claim 48 wherein said liquid hydrocarbon fuel has a boiling range of from about 150 °F to about 750 °F.

52. (Currently amended) The method of claim 48 wherein said liquid hydrocarbon fuel is selected from the group consisting of liquefied natural gas (LNG), liquefied petroleum gas (LPG), motor gasoline, aviation gasoline, distillate

fuels such as diesel fuel and home heating oil, kerosene, jet fuel, No. 2 oil, residual fuel, No. 6 fuel, ~~or~~and bunker fuel.

53. (Previously presented) The method of claim 48 wherein said liquid hydrocarbon fuel is selected from the group consisting of diesel fuel, jet fuel, aviation gasoline, and motor gasoline.

54. (Previously presented) The method of claim 48 wherein said liquid hydrocarbon fuel is jet fuel.

55. (Previously presented) The method of claim 54 wherein said reduced concentration of DRA is sufficiently low to permit reignition of said jet fuel after flameout.

56. (Previously presented) The method of claim 48 wherein said drag reducer additive comprises a polyalphaolefin having a peak molecular weight of about 1 million Daltons or more.

57. (Previously presented) The method of claim 54 wherein said drag reducer additive comprises a polyalphaolefin having a peak molecular weight of about 1 million Daltons or more.

58. (Previously presented) The method of claim 48 wherein said drag reducer additive comprises polyalphaolefin having a peak molecular weight of about 10 million Daltons or more.

59. (Previously presented) The method of claim 55 wherein said drag reducer additive comprises polyalphaolefin having a peak molecular weight of about 10 million Daltons or more.

60. (Previously presented) The method of claim 55 wherein said drag reducer additive comprises polyalphaolefin having a peak molecular weight of about 25 million Daltons or more.

61. (Previously presented) The method of claim 57 wherein said polyalphaolefin is made by solution polymerization.

62. (Previously presented) The method of claim 58 wherein said polyalphaolefin is made by solution polymerization.

63. (Previously presented) The method of claim 48 wherein said DRA comprises two different linear alpha olefins (LAO's) or more having from about 6

to about 12 carbon atoms, the number of carbon atoms of the two different LAO's differing by 6.

64. (Previously presented) The method of claim 55 wherein said DRA comprises two different linear alpha olefins (LAO's) or more having from about 6 to about 12 carbon atoms, the number of carbon atoms of the two different LAO's differing by 6.

65. (Previously presented) The method of claim 48 wherein said DRA comprises polar groups.

66. (Previously presented) The method of claim 48 wherein said polar groups comprise organic polar groups.

67. (Previously presented) The method of claim 65 wherein said polar groups comprise a moiety selected from the group consisting of oxygen, sulfur, nitrogen, halogen, phosphorus, unsaturated carbon-carbon bonds, and combinations thereof.

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